



## CITY OF DURHAM | NORTH CAROLINA

**Date:** June 1, 2011

**To:** Thomas J. Bonfield, City Manager  
**Through:** Theodore L. Voorhees, Deputy City Manager  
**From:** Edward Venable, Engineering and Stormwater Manager  
Paul Wiebke, Assistant Stormwater Manager  
Dana P. Hornkohl, Civil Engineer, Stormwater Services Division  
**Subject:** Amendment No. 1 – Contract for Professional Services for Drainage System Rerouting in the Vicinity of University Drive and Chapel Hill Boulevard

### Executive Summary

The City Manager awarded a contract to HDR Engineering, Inc. of the Carolinas on September 27, 2006 in the amount of \$29,988.00 to begin work on the design of the drainage system rerouting in the vicinity of University Drive and Chapel Hill Boulevard. This drainage system is in poor condition and the property owner and the City entered into an agreement to replace and reroute the system as part of the private property drainage assistance program administered by the City at that time. Additional funds are needed to complete the design, permitting, and construction documents for this project. Approving the additional funding at this time will help expedite the overall project saving approximately two months. The Public Works Department recommends amending the existing contract with HDR Engineering, Inc. of the Carolinas in the amount \$146,575.00. The resulting contract amount would be \$176,563.00.

### Recommendation

The Administration recommends that the City Council authorize the City Manager to execute Amendment No. 1 – Contract for Professional Services for Drainage System Rerouting in the Vicinity of University Drive and Chapel Hill Boulevard in the amount of \$146,575.00.

### Background

Scott Howell approached the City and the North Carolina Department of Transportation (NCDOT) in 2005 concerning the drainage system on his property at 2514 University Drive (Nana's Restaurant and the Rockwood Building). The private drainage system extends from a regulated stream on the west side of the property, runs underneath the back parking lot then passes under two buildings and the front parking lot, where it connects to the public system within NCDOT maintained University Drive right-of-way. A sinkhole had formed in the parking area in front of the building adjacent to the Rockwood Building sign. It was determined that a portion of the private system located on Mr. Howell's property was failing and deficient. Mr. Howell requested assistance from the City in repairing the system.

The City and Mr. Howell first entered into an agreement on August 16, 2006. The City agreed to assist Mr. Howell with "designing and building a replacement stormwater line" on his property. The City Manager awarded a contract to HDR Engineering, Inc. of the Carolinas on September 27, 2006 in

the amount of \$29,988.00 to begin work on the design of the drainage system rerouting in the vicinity of University Drive and Chapel Hill Boulevard. At the same time the City entered into discussions with NCDOT to share in the cost of the culvert replacement, specifically the portion of the system within NCDOT right-of-way. The City and Mr. Howell entered into a supplemental agreement on August 15, 2008. This agreement flushed out the details of construction scheduling and phasing, cost sharing between Mr. Howell and the City, and the dedication of easements. A map showing the phasing is attached.

In order for this project to be completed, NCDOT must approve the construction drawings as the State right-of-way is affected. NCDOT gave preliminary approval of a pre-cast replacement culvert and construction plans were submitted to NCDOT for review. Upon closer review NCDOT staff determined they would not accept a pre-cast design due to grade changes and alignment angles for the replacement culvert. As a result the project requires significant design changes which were not accounted for in the original contract with the consultant. Amendment No. 1 will complete the design for the culvert rerouting and include a geotechnical investigation, surveying services, structural design, construction management and observation, environmental permitting, and materials testing. The amendment in the amount of \$146,575.00 will result in a total contract amount of \$176,563.00.

#### **Issues and Analysis**

An additional \$146,575.00 is requested to complete the design of the drainage system rerouting in the vicinity of University Drive and Chapel Hill Boulevard. The existing drainage system is in poor condition and needs to be replaced. The additional funds will allow the design and construction of the replacement culvert to proceed.

The initial pre-cast design did not require a geotechnical investigation or a structural analysis of the box culvert. The cast-in-place culvert will require both of these items and additional structural detailing on the construction plans which will add time to the project during the design phase. The proposed expedited schedule below reduces the planned project phases to the minimum possible time frames.

#### **Existing Project Schedule**

Council Approval of Design Contract Amendment: August 1, 2011 (City Council Meeting)  
Execution of Design Contract Amendment: September 2011 (One month)  
Complete Geotechnical Investigation, Re-design, and Plans: January 2012 (Four months)  
NCDOT and City Construction Plans Review Complete: April 2012 (Three months)  
Final Construction Plans Complete: May 2012 (One month)  
Advertise Construction Project for Bids: June 2012 (One month)  
Council Approval of Construction Contract: July 2012 (One month)  
Execution of Construction Contract (construction may commence): August 2012 (One month)

#### **Proposed Expedited Project Schedule**

Council Approval of Design Contract Amendment: June 9, 2011 (Work Session)  
Execution of Design Contract Amendment: June 2011 (Two weeks)  
Complete Geotechnical Investigation, Re-design, and Plans: September 2011 (Three months)  
NCDOT and City Construction Plans Review Complete: October 2011 (One month)  
Final Construction Plans Complete: November 2011 (One month)  
Advertise Construction Project for Bids: December 2011 (One month)  
Council Approval of Construction Contract: January 2012 (One month)

Execution of Construction Contract (construction may commence): February 2012 (One month)

#### **Alternatives**

City Council may choose to not approve the request. Staff would complete a portion of the design in-house and contract for the required professional services for the remaining tasks. This will result in a significant time delay in the design and construction of the replacement culvert.

#### **Financial Impact**

This project is budgeted for in the adopted Capital Improvements Project Ordinance (#13288) for private property and right-of-way drainage repairs, account 4300L045-725000-LK100.

#### **SDBE Summary**

This is a contract amendment. No compliance review was conducted in accordance with the Ordinance to Promote Equal Business Opportunities in City Contracting.

HDR, Inc. will be using the following SDBE firms for the additional scope of service:

<b>Firm</b>	<b>ID</b>	<b>City/State</b>	<b>Amount</b>	<b>% of Contract</b>
A1 Consulting Group, Inc.*	SDBE	Morrisville, NC	\$ 48,000.00	32.7%
CH Engineering, PLLC	WBE	Raleigh, NC	\$12,000.00	8.2%

\*A1 Consulting Group, Inc. is an Asian American SDBE and was used to fulfill the MSDBE goal requirement for this project in compliance with the Ordinance to Promote Equal Business Opportunities in City Contracting.

#### **Attachments**

1. Scope of Services for Amendment No. 1, dated April 19, 2011.
2. Contract for Professional Services, dated September 27, 2006.
3. Owner's Request for City Assistance for Stormwater Project, dated August 16, 2006.
4. Supplemental Agreement for Stormwater Improvement, dated August 15, 2008.
5. Phasing Plan, dated December 3, 2008.